

# PATENT COOPERATION TREATY

## PCT

### INTERNATIONAL SEARCH REPORT

(PCT Article 18 and Rules 43 and 44)

Applicant's or agent's file reference <b>GL217595/142</b>	<b>FOR FURTHER ACTION</b> see Notification of Transmittal of International Search Report (Form PCT/ISA/220) as well as, where applicable, item 5 below.	
International application No. <b>PCT/NZ03/00140</b>	International filing date ( <i>day/month/year</i> ) <b>3 July 2003</b>	(Earliest) Priority Date ( <i>day/month/year</i> ) <b>3 July 2002</b>
Applicant <b>A2 CORPORATION LIMITED et al</b>		

This international search report has been prepared by this International Searching Authority and is transmitted to the applicant according to Article 18. A copy is being transmitted to the International Bureau.

This international search report consists of a total of 5 sheets.

☐ It is also accompanied by a copy of each prior art document cited in this report.

**1. Basis of the report**

- a. With regard to the **language**, the international search was carried out on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.
- ☐ the international search was carried out on the basis of a translation of the international application furnished to this Authority (Rule 23.1(b)).
- b. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, the international search was carried out on the basis of the sequence listing:
- ☐ contained in the international application in written form.
- ☐ filed together with the international application in computer readable form.
- ☐ furnished subsequently to this Authority in written form.
- ☐ furnished subsequently to this Authority in computer readable form.
- ☐ the statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.
- ☐ the statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.

2. ☒ **Certain claims were found unsearchable** (See Box I).

3. ☐ **Unity of invention is lacking** (See Box II).

4. With regard to the **title**,

☒ the text is approved as submitted by the applicant.

☐ the text has been established by this Authority to read as follows:

5. With regard to the **abstract**,

☒ the text is approved as submitted by the applicant

☐ the text has been established, according to Rule 38.2(b), by this Authority as it appears in Box III. The applicant may, within one month from the date of mailing of this international search report, submit comments to this Authority.

6. The figure of the **drawings** to be published with the abstract is Figure No.

- ☐ as suggested by the applicant.
- ☐ because the applicant failed to suggest a figure
- ☐ because this figure better characterizes the invention
- ☒ **None of the figures**

**Box I Observations where certain claims were found unsearchable (Continuation of item 2 of first sheet)**

This international search report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. ☐ Claims Nos :  
because they relate to subject matter not required to be searched by this Authority, namely:
2. ☒ Claims Nos : 13-15  
because they relate to parts of the international application that do not comply with the prescribed requirements to such an extent that no meaningful international search can be carried out, specifically:  
These claims are not limited to the technical features that define the invention. The invention is to a method of selecting and milking cows that have lower saturated/unsaturated fatty acid determined by their beta casein genotype. The invention extends to milk produced by the process. However, claims 13-15 are not limited to use of milk produced by the process defined by claim 1.
3. ☐ Claims Nos :  
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a)

**Box II Observations where unity of invention is lacking (Continuation of item 3 of first sheet)**

This International Searching Authority found multiple inventions in this international application, as follows:

1. ☐ As all required additional search fees were timely paid by the applicant, this international search report covers all searchable claims
2. ☐ As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.
3. ☐ As only some of the required additional search fees were timely paid by the applicant, this international search report covers only those claims for which fees were paid, specifically claims Nos.:
4. ☐ No required additional search fees were timely paid by the applicant. Consequently, this international search report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

**Remark on Protest**

- ☐ The additional search fees were accompanied by the applicant's protest.
- ☐ No protest accompanied the payment of additional search fees.

## INTERNATIONAL SEARCH REPORT

International application No.

PC 03/00140

**A. CLASSIFICATION OF SUBJECT MATTER**Int. Cl. <sup>7</sup>: A01K 67/00, C07K 14/47, C12Q 1/68

According to International Patent Classification (IPC) or to both national classification and IPC

**B. FIELDS SEARCHED**

Minimum documentation searched (classification system followed by classification symbols)

See electronic databases

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

See electronic databases

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

WPIDS CA MedLine Agricola. beta casein, polymorphism/allele/variant, milk, fat, saturated/unsaturated.

**C. DOCUMENTS CONSIDERED TO BE RELEVANT**

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	WO 96/36239 A1 (Corran Norman Stuart McLachlan) 21 November 1996	1-12, 16
A	US 6451368 B1 (Robert B Elliott, and Jeremy P Hill) 17 September 2002	1-12, 16
A	Laugeson M and Elliott R. Ischaemic heart disease, type 1 diabetes and cow milk A1 $\beta$ -casein. The New Zealand Medical Journal, Jan 2003. 116(1168):1-19	1-12, 16



Further documents are listed in the continuation of Box C



See patent family annex

* Special categories of cited documents:	
"A" document defining the general state of the art which is not considered to be of particular relevance	"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
"E" earlier application or patent but published on or after the international filing date	"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)	"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art
"O" document referring to an oral disclosure, use, exhibition or other means	"&" document member of the same patent family
"P" document published prior to the international filing date but later than the priority date claimed	

Date of the actual completion of the international search  
19 August 2003

Date of mailing of the international search report 22 AUG 2003

Name and mailing address of the ISA/AU

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**C (Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT**

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	McLachlan CNS. $\beta$ -casein A <sup>1</sup> , ischaemic heart disease mortality, and other illnesses. Medical Hypotheses, 2001. <b>56</b> (2): 262-272	1-12, 16
A	Bovenhuis H et al. Association between milk protein polymorphisms and milk production traits. J Dairy Science, 1992. <b>75</b> :2549-2559	1-12, 16
A	Ojala M et al. Effects of milk protein genotypes on the variation for milk production traits of Holstein and Jersey cows in California. J Dairy Science, 1997. <b>80</b> : 1776-1785	1-12, 16
A	Ikonen T et al. Association between milk protein polymorphisms and first lactation milk production traits in Finnish Ayrshire cows. J Dairy Science, 1999. <b>82</b> :1026-1033	1-12, 16

## INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No.

PCT/NZ03/00140

This Annex lists the known "A" publication level patent family members relating to the patent documents cited in the above-mentioned international search report. The Australian Patent Office is in no way liable for these particulars which are merely given for the purpose of information.

Patent Document Cited in Search Report	Patent Family Member
WO 96/36239	AU 55108/96, CA 2217820, EP 0871366
US 6451368	AU 39395/95, CA 2204245, EP 0789842 WO 9614577

END OF ANNEX